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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,076	04/09/2001	Kyung-Shik Choi	AB-1041 US	8738

7590 07/31/2002

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EXAMINER

LAM, THANH

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/832,076

Applicant(s)  
Choi

Examiner  
Thanh Lam

Art Unit  
2834



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Election filed on 6/3/2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above, claim(s) 5-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior art (figs. 1-2 of the application) in view of Mizutani.

Prior art (figs. 1-2) disclose a resin molded brushless direct current motor comprising: a rotor assembly (1) including a rotor and a rotating shaft (12), the rotor having a plurality of magnets for creating a magnetic field; a stator assembly (2) including a plurality of multi-phase coils (23), the plurality of multi-phase coils creating an electric field for generating a torque in cooperation with the magnetic field created by the magnets of the rotor; an injection molded housing encasing the stator assembly; a control board (3) including a drive circuit for detecting a

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position of the rotor and sequentially applying conducting signals to the multi-phase coils of the stator assembly; and connection means (22) for electrically connecting the control board to the multi phase coils of the stator assembly, wherein the housing is injection molded with the stator assembly therein.

Mizutani discloses a control circuit board (58) disposed on an outer portion of the housing (52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to rearrange the board of Prior art to accommodate the control board arrangement as taught by Mizutani in order to prevent the board from heat damage.

Regarding claim 2, it is note that the proposal in combination of the Prior art and Mizutani disclose the outer portion of the housing has a depression formed therein, the control board being disposed in the depression.

Regarding claim 3, it is note that the proposal in combination of the Prior art and Mizutani disclose a pair of bearings and a pair of bearing covers, the bearings rotatably supporting the rotating shaft of the rotor assembly, each bearing cover being press-fit onto an end of the housing so as to support the respective bearing, one of bearing covers having an extended portion extending radially outward, the bearing cover with the extended portion preventing the control board from being exposed.

Regarding claim 4, it is note that the proposal in combination of the Prior art and Mizutani disclose a plurality of connection pins coupled to respective multi-phase coils of the

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stator assembly and projecting from the housing; and a plurality of connectors formed on the control board, each of the connectors corresponding to and mating with a respective connection pin.

*Election/Restriction*

4. Applicant's election without traverse of claims 1-4 in Paper No. 6 is acknowledged.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (703) 308-7626. The fax phone number for this Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0656.



Thanh Lam

Patent Examiner

July 26, 2002